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ABSTRACT

In Holland, it recently has been recognized that minority students are underrepresented in schools for learning disabled (LD) and are overrepresented in schools for the educable mentally retarded (EMR). In 1983, a study was begun in Rotterdam to determine why some students of Surinamese, Turkish, and Moroccan origin were placed in schools for the EMR, while others with comparable achievement levels were not. This paper addresses the question of whether EMR and low achieving regular education (RE) students from these ethnic groups show any differences on six subtests of an intelligence test and five subtests of a language proficiency test. First, the educational context in Rotterdam is described briefly. Following this is an outline of the study methodology, which consisted of stepwise reading and mathematics screening in ERM and regular elementary schools. The study sample was drawn from students assessed in this manner, and students in the sample were given individually the short form of a newly revised Dutch intelligence test and five subtests from an oral language proficiency test. The raw scores on these tests, it is explained, were used as independent variables in stepwise linear discriminant analyses for each group, the dependent variable being school type. Results are said to indicate that when control variables (sex, age, length of residence in Holland, reading level and mathematics level) are kept constant in each group, the EMR and RE students differ only slightly and there is considerable overlap. (GC)

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REFERRAL OF MINORITY CHILDREN TO SPECIAL EDUCATION IN HOLLAND*

1 Introduction

In Holland, as well as in other Western European countries, there has been an influx of ethnic minority groups during the last decades: people from former colonial territories (Surinam and the Dutch Antilles) and migrant workers from countries around the Mediterranean (mainly Turkey and Morocco in the Dutch case). This paper deals with the referral of minority children to special education, a problem that has only recently been recognized in Holland. It has been observed that minority students are underrepresented in schools for the learning disabled (LD), while students of Surinamese and Antillian origin are overrepresented in schools for the educable mentally retarded (EMR). Similar situations in Europe can be found in Great Britain and West Germany (cf. Schröder, 1979; Tomlinson, 1981). In the U.S.A. the overrepresentation of black students in EMR programs has received considerable attention in recent years (cf. Heller et al., 1982).

In 1982 the Dutch government requested our institute's assistance with this problem and supplied additional funds for a project. Although the ultimate goal is the development of adequate procedures and assessment instruments, we started with an exploratory study as it was not clear what the reasons for referral and the criteria for admission to special education were (special education is organized in self-contained schools in Holland). The central

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question in the study is why some students of Surinamese, Turkish, and Moroccan origin were placed in schools for the EMR, while others, with comparable achievement levels, were not. For reasons of comparison, a sample of Dutch students with similar (low) levels of academic achievement also participated. The study was conducted in the city of Rotterdam, one of the cities in Holland with a heavy concentration of minority groups.

In this paper I will address the question whether EMR and low achieving regular education students from these ethnic groups show any differences on six subtests of an intelligence test and five subtests of a language proficiency test. Before the research methods and the results are presented, I will give a short description of the educational situation in Rotterdam to provide a context for the study.

2 Minority students in Rotterdam schools

Today one out of every three to four children in Rotterdam is a child of (parents of) non-Dutch origin. In kindergarten the percentage has been higher than 30 since 1982 (of a total of about 12 000 students), while in elementary education the percentage increased by more than ten points during the last five years to 28.5. In the same period the total number of students in elementary schools dropped from almost 45 000 to less than 35 000 . The distribution of minority students among schools is very uneven. Some schools have a minority enrollment of over 90%, while others have almost no students of non-Dutch origin. With the proportionate increase of minority students in elementary education, the schools for LD and EMR students also experienced an increase, although this was more dramatic in EMR schools than in LD schools. The percentage in EMR schools is currently 37.9. In 1979 it was 16.5 which is almost equal to the percentage in regular education in that year. The percentage in LD schools in 1979 was still as low as 5.3. The 1984 figure is 10.9.

The category of students of non-Dutch origin includes children of very

different backgrounds, including (the smaller part) children from EC countries. Figures 1, 2, and 3 show the development of the numbers of students of Moroccan, Turkish, and Surinamese and Antillian origin during the last five years as a percentage of the total number of students in regular education (RE) and special education (EMR and LD, only) at the elementary level (as no data are available for special education in the years 1980 and 1981, dashed lines were drawn between 1979 and 1982).

It appears that the percentage of Moroccan students in LD schools is negligible, while in EMR schools it is constantly at a somewhat lower level than in regular education (Figure 1). The percentage of Turkish students in LD schools is also low, but has increased somewhat since 1982. In EMR schools the percentages in 1983 and 1984 are at the same level as in regular education and one might wonder how this will continue (Figure 2). Compared to the students of Turkish and Moroccan origin, the percentage of Surinamese and Antillian students in LD schools is high, although lower than in regular education, and very high in EMR schools, with a sharp increase during the last five years (Figure 3). Unfortunately, the percentages of Surinamese and Antillian students in special education are not completely comparable to those in regular education as in this latter type only foreign born children have been included in the statistics (up to now the majority), while presumably in special education Dutch born children of parents of Surinamese and Antillian origin were also counted. Therefore, in Figure 3 an estimate of the percentage of foreign and Dutch born children in regular education in 1984 has been included (based on an inventory in the schools participating in the project). Although the definition of Surinamese and Antillian origin might cause some problems in comparisons, the trend is quite clear. Students of Surinamese and Antillian origin are overrepresented in EMR schools.

3 Method

The study started in the spring of 1983 with a stepwise reading and

Figure 1 *Percentage of students of Moroccan origin in Rotterdam schools (1979 - 1984)*

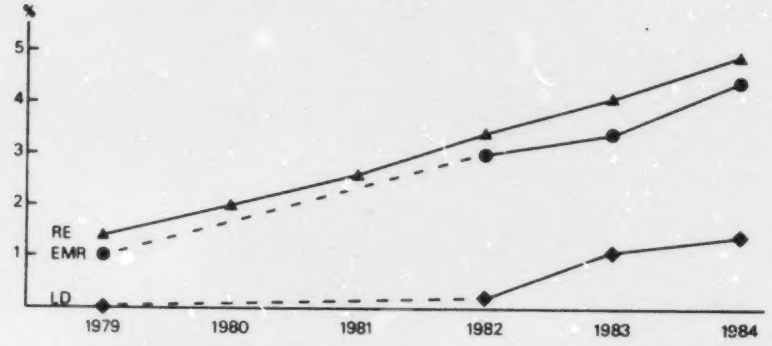


Figure 2 *Percentage of students of Turkish origin in Rotterdam schools (1979 - 1984)*

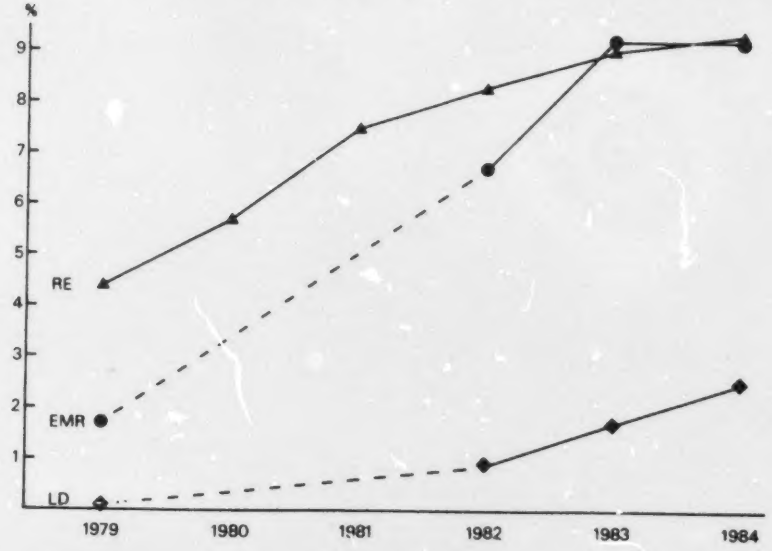
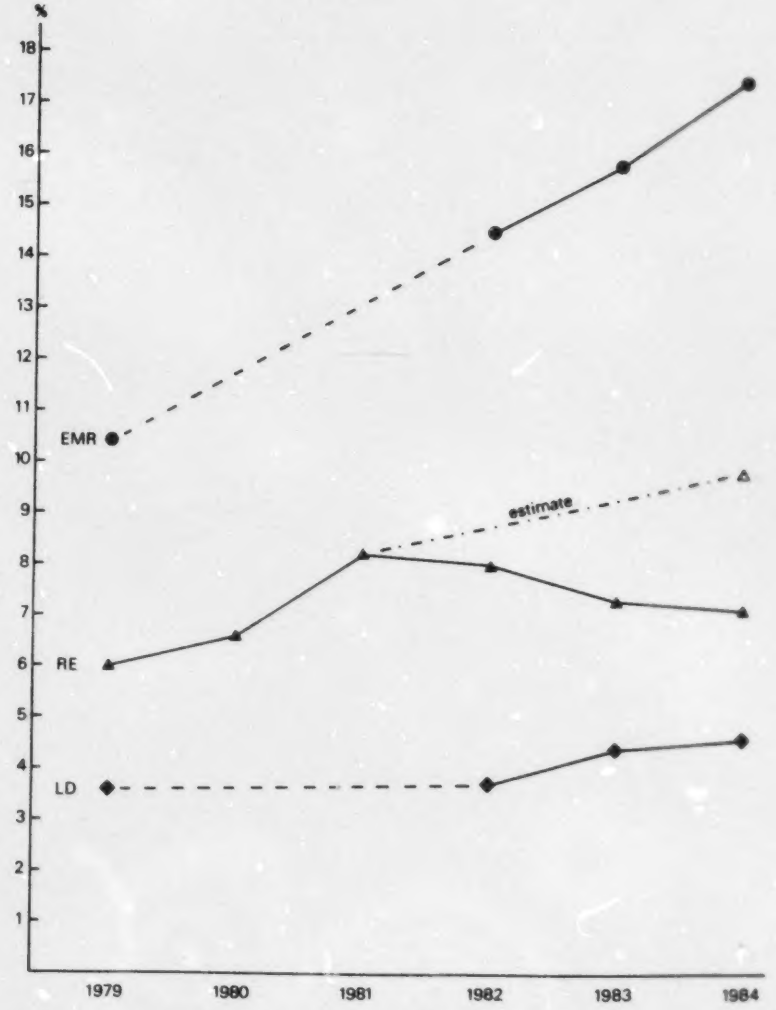


Figure 3 *Percentage of students of Surinamese and Antillian origin in Rotterdam schools (1979 - 1984)*



mathematics achievement screening in all nine Rotterdam EMR schools. Students classified as non-readers and/or who had not yet reached a minimal level of numeracy (teacher ratings) were excluded and assigned the level code 1. The reading and mathematics level of all other students under the age of twelve was classified by means of tests. Students were given a higher level test only if at least 70% of the items of the preceding one had been answered correctly. The top level (5) roughly corresponds with the level which is reached by the modal student by the end of grade 2. Only ten students out of a total of 313 Dutch, Surinamese, Turkish, and Moroccan students received classifications for reading and/or mathematics higher than 5. Of the remaining students 202 were of Dutch origin, 54 of Surinamese, and 47 of Turkish or Moroccan origin.

The same stepwise procedure was carried out in a sample of 56 elementary schools that had agreed to participate in the project. The sample of schools was stratified by percentage of minority enrollment. Each teacher in grades 2 - 5 selected two or three of the students with the lowest level of achievement, while the non-readers and the students who had not yet reached the stage of initial mathematics were identified in grade 1. Out of a total of about 800 students, 243 under the age of twelve were identified with achievement classifications comparable to the EMR students, keeping age constant. Of these 243 students 83 were of Dutch origin (1.6% of the total number of Dutch students in these schools), 33 of Surinamese origin (3.7% of the corresponding total number), and 127 of Turkish or Moroccan origin (7.1% of the total number). From these percentages it can be inferred that schools are more reluctant to refer Turkish and Moroccan students to special education than students of Surinamese origin (cf. par. 2).

From these pools of EMR and RE students, about 50 from each ethnic group were selected for participation in the main part of the study which was carried out in the school year 1983/84. When less than 50 students were identified, all available students were included in the sample.

In the fall of 1983 all students in the sample were individually given the

short form of a newly revised Dutch intelligence test (six subtests: closure, exclusion, verbal meaning, quantity, discs, and learning names; Bleichrodt et al., 1984), and five subtests from an oral language proficiency test (vocabulary - active, syntax - receptive, morphology - active, syntax - active, and implicit meaning; Van Bon, 1982).

The raw scores on these tests (number of items correct, unless otherwise indicated) were used as independent variables in stepwise linear discriminant analyses for each ethnic group, the dependent variable being school type. The project was planned to compare within each ethnic group EMR and RE samples of comparable composition on the variables sex, age, length of residence in Holland (if applicable), reading and mathematics level. Therefore, these control variables were entered into the discriminant analyses prior to the independent variables to correct for differences in the independent variables associated with possible differences in these control variables. In the computer program, the so called jackknifed classification option was chosen (cf. Jennrich & Sampson, 1981). Each individual is classified into a school type group on the basis of the linear discriminant function which has been computed from all the data except the case being classified.

4 Results

The means and standard deviations on the control and independent variables for each school type per ethnic group are presentend in Table 1. If the EMR and RE students had been completely comparable on the control variables, the discriminant functions resulting from the analyses on these variables would have produced 50% correct classifications for each ethnic group. Mainly because of differences in achievement level for reading and mathematics, or age, the total percentage of correct classifications varies between about 60 and 70, as it appears from Table 1. The highest percentage correct for a school type is 78.0 in the case of the Turkish and Moroccan RE students, the lowest being 53.1 for the Surinamese RE students.

Table 1 *Means and standard deviations per school type for each ethnic group, and percentages correct of the jackknifed classifications resulting from the discriminant analyses*

	Dutch students					Surinamese students					Turkish and Moroccan students				
	EMR (n = 48)		RE (n = 51)			EMR (n = 51)		RE (n = 32)			EMR (n = 46)		RE (n = 50)		
	M	s	M	s	CV	M	s	M	s	CV	M	s	M	s	CV
control variables															
sex	1.40	0.49	1.37	0.49	+	1.41	0.50	1.50	0.51	+	1.46	0.50	1.52	0.50	+
age in months	117.90	14.76	117.90	14.45	+	122.08	13.89	111.16	19.41	+	118.07	16.10	114.30	17.11	+
residence in Holland	not applicable		not applicable		-	62.25	30.91	52.59	40.31	+	76.85	33.28	68.96	30.88	+
reading level	2.88	1.44	3.59	1.28	+	3.31	1.46	2.81	1.65	+	2.00	1.23	2.60	1.31	+
mathematics level	2.65	1.47	3.14	1.33	+	2.67	1.23	2.72	1.67	+	1.89	1.27	2.28	1.29	+
percentage of students correctly classified	58.3		66.7			74.5		53.1			60.9		78.0		
(jackknifed procedure)	62.6					66.3					69.8				
independent variables															
closure	32.25	7.21	34.59	5.97	-	33.61	6.02	30.94	6.45	-	28.46	7.12	26.54	6.89	-
exclusion	27.65	7.36	30.29	7.22	-	30.27	6.14	28.31	6.61	-	28.20	7.21	27.14	8.97	-
verbal meaning	34.90	6.17	39.29	6.06	-	32.47	6.63	32.81	7.88	-	22.76	6.96	24.96	8.34	-
quantity	34.06	12.53	43.08	9.99	-	37.20	13.37	37.09	13.88	-	34.15	11.45	38.48	11.20	-
discs (seconds)	336.08	103.21	272.06	103.64	+	340.47	118.32	368.56	140.93	-	393.43	142.27	347.72	94.05	-
learning names	8.96	3.71	11.51	4.05	-	8.33	3.82	9.31	3.13	-	5.91	2.83	7.22	3.80	-
vocabulary (active)	28.33	8.42	36.00	7.61	+	23.86	8.44	24.53	9.42	-	14.17	6.50	14.16	8.29	-
syntax (receptive)	31.73	4.67	33.88	2.41	-	31.33	3.37	31.44	4.06	-	27.98	4.21	29.56	4.42	-
morphology (active)	20.23	6.44	25.94	6.04	+	14.04	6.91	16.31	9.13	+	5.52	4.61	6.30	6.64	-
syntax (active)	17.73	5.22	21.37	2.78	-	16.59	5.27	17.66	5.60	-	10.74	6.15	11.60	7.57	-
implicit meaning	19.77	4.38	22.80	4.35	-	20.24	4.29	18.25	4.88	+	17.72	4.52	17.28	4.40	-
percentage of students correctly classified	77.1		78.4			76.5		59.4			60.9		78.0		
(jackknifed procedure)	77.8					69.9					69.8				

The independent variables were only entered into the discriminant function, a canonical variable (CV in Table 1), if significant differences remained between school types on these variables in an anlysis of covariance, using the variables already entered into the canonical variable as covariates. In the case of the Turkish and Moroccan students no such variables were identified. For the students of Surinamese origin only two of the language proficiency subtests were included in the canonical variable resulting in an increase in the total percentage of correctly classified students of only 3.6 (69.9 - 66.3). Of the Dutch students 15.2% more were correctly classified after the inclusion of three independent variables in the discriminant function (77.8 - 62.6).

Although the discriminant functions result in a statistically significant improvement in the number of correctly classified students in each ethnic group (compared with chance level, which is 50%), the contribution of the independent variables varies from negligible to very moderate. This means that, keeping the control variables constant, in each ethnic group the EMR and RE students only differ slightly on these variables and that there is a very considerable degree of overlap.

5 Discussion

The EMR as well as the RE students in this study are all low achievers compared with their age mates. The very fact that RE students with achievement levels (almost) as low as EMR students from the same ethnic group could be identified implies that low achievement is certainly not a sufficient condition for referral and EMR placement, although it is a necessary condition by definition. The classroom teachers, the gate-keepers who take the initiative for referral, must look at other characteristics of their students as well. From this data it appears that the skills tapped by some subtests from a traditional intelligence test and a language proficiency test do not make so much difference. Almost the same situation was found by Ysseldyke et

al. (1982) in a comparison of LD students with low achieving RE students.

While very interesting differences between ethnic groups can also be observed in the data presented in the preceding section, I will disregard these differences here and concentrate on the differences between EMR and RE students within ethnic groups. From interviews with a few teachers it also appeared that the mere fact of severe learning difficulties is seldom the sole reason for referral for EMR or LD placement. Several other reasons were mentioned, such as low levels of adaptivity, bad work habits, low levels of concentration, deficient fine motor skills, problematic social relations with peers and teachers, etc. Subsequently we developed a questionnaire for the RE students' present teachers and the former RE teachers of the students now placed in EMR schools. The questionnaire requested the teachers to indicate whether the students belongs (belonged) to the two or three most noticeable students in their present (former) class. The results are shown in Table 2.

Unfortunately, it was not possible to contact a rather large number of the EMR students' former RE teachers (more than 50%). Nevertheless, the trend in the answers for each of the ethnic groups is quite clear. Although it is admitted that a great many of the RE students show severe learning difficulties, in the eyes of their teachers they combine this characteristic to a much lesser degree with other problems than the students classified EMR. The mean number of problems perceived for the EMR students is about twice as high as for the RE students in each of the ethnic groups and the answer patterns are very similar. Although there might be some distortion in the answers of the EMR students' former RE teachers because of the time lag, from this data it appears that the combination of problems leads teachers to the referral of students for placement in special education (the choice between EMR and LD placement is usually left to the psychologist). This finding will be further explored in subsequent analyses, within ethnic groups as well as between ethnic groups.

Table 2 *Percentages of problems per ethnic group as perceived by former and present RE teachers for EMR and RE students, respectively, and means and standard deviations of the numbers of problems perceived*

Type of problem	Dutch students		Surinamese students		Turkish/Moroccan students	
	EMR	RE	EMR	RE	EMR	RE
learning difficulties (reading, mathematics or prerequisite skills)	100	85	100	68	100	79
language proficiency	87	46	95	63	100	77
fine motor skills	80	33	68	11	53	19
work habits	91	71	91	50	89	43
adaptivity	70	16	62	7	45	19
social relations with peers	78	28	50	15	63	21
social relations with teacher	39	8	27	7	30	15
number of students	23	41	22	28	20	48
mean number of problems	5.26	2.83	4.77	2.18	4.70	2.71
standard deviation	1.32	1.55	1.27	1.42	1.26	1.69

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